

B.Pharm, SEM - I (CBSEGS)

Sub - POC

(03 Hours)

KT


08/12/16



Dec 2016

Q.P. Code : 524601

Total Marks 70

- N.B. 1) All questions are compulsory.
2) Figure to the right indicate full marks.
3) Attempt all subquestions together.

1. A) Explain the following terms (Any Four) : 04
a) VSEPR b) Symmetry operation c) Charge transfer donors
d) Solvolysis f) General base
- B) Answer the following question briefly (Any Three) : 06
a) Give one example of a compound with positive and negative formal charge.
b) Explain bonding in organometallics.
c) Explain how pseudo first order reaction different from first order reaction.
d) Explain phase transfer catalysis.
- C) Match the following 05
- | Group 'A' | Group 'B' |
|---|----------------------------|
| i) Valence electrons of Ni (At. No:-28) | a) sp hybrid orbitul |
| ii) d_{yz} | b) Phase transfer catalyst |
| iii) Acetylene | c) Π Symmetry |
| iv) Quaternary ammonium salt | d) Charge transfer complex |
| v) Iodine - Starch complex | e) $3d^8 4s^2$ |
2. a) Draw resonating structures of following: 02
i) CO_3^{2-} ii) 
- b) With the help of a Walsh diagram, explain the formation of formaldehyde molecule. 03
c) Explain Primary Kinetic Isotope effect with example. 03
d) Explain with suitable example nucleophilic catalysis. 03
3. a) Draw the Walsh Diagram of Pyramidalisation of Methyl. Comment on geometry of NH_3 and BH_3 . 03
b) Explain the formation of molecular orbitals of linear and bent structures of methylene group. 03
c) Explain the relationship between transition state theory and Arrhenius rate theory. 03
d) A drug decomposition follows First order Kinetics. The half life of the reaction is 0.372 days. Find the rate constant in hours. 02

4. a) Explain group orbitals in MOT. 03
- OR**
- a) Explain the strengths and drawbacks of MOT. 03
- b) What is QMOT. Enlist any four rules of QMOT. 03
- c) Write in brief about equilibrium Kinetics. 03
- d) Draw Kinetic plots explaining specific acid catalysis. 02
5. a) Draw the resonating structure of : 03
- i)  ii) 
- b) Write a short note on carbocations on the basis of MOT. 03
- c) Explain Boltzman distribution and temperature dependance in brief with reference to Kinetics. 02
- d) Write a short note on different categories of charge transfer complexes. 03
6. a) Write a short note on hybridization in BeCl_2 or CH_4 . Comment on its geometry and bond angle. 03
- b) Explain in detail Hammond's postulate. 04
- c) Write a note on specific base catalysis. 04

(3 Hours)

[Total Marks : 70

- N.B. :** (1) All questions are **compulsory**.
 (2) Draw neat labelled diagram wherever necessary.

1. (a) What is Super Critical fluid state and give its applications. 3
- (b) Define optical rotation and give its applications. 2
- (c) The Vapour pressure of ether (mol. mass = 74) is 442mm Hg at 293k. 3
 If 3gm of a compound A is dissolved in 50 gm of ether at this temperature, the vapour pressure falls to 426 mm Hg. Calculate the molecular mass of A. Assume that the solution of A in ether is very dilute.
- (d) Give the definition, application and limitations of thermodynamics. 4
- (e) State and explain Faraday's law of electrolysis. 3

2. (a) Explain the principle and method of liquefaction of gases by Claude's method. 4

OR

- (a) Explain the principle behind liquefaction of gases and write a note on aerosols.
 - (b) Define dielectric constant and give its significance to pharmacy. 3
 - (c) Define -Enthalpy and Heat capacity. State first law of thermodynamic's. 4
3. (a) State Raoult's law. Explain Ostwald and Walker's dynamic method for measuring the relative lowering of vapour pressure. 4
 - (b) Explain equivalent conductance of a weak electrolyte at infinite dilution. 3
 - (c) Give the various statements of second law of thermodynamics and explain efficiency of heat engine. 4

OR

- (c) If a carnot engine operating between two heat reservoir's at 227°C and 27°C absorbs 1000 calories from 227°C reservoir per cycle, how much heat is discharged in to the 27°C reservoir and how much work is done per cycle? What is the efficiency of cycle?
4. (a) Discuss critical phenomenon and define the various critical constants. 4
 - (b) Write a short note on Abbe's Refractometer. 3
 - (c) Describe a method to determine elevation in boiling point of a non-volatile solute in solution with the help of a neat labeled diagram. 4

OR

- (c) Describe a method to determine depression in freezing point of a non-volatile solute in solution with the help of a neat labelled diagram.

[TURN OVER]

5. (a) Write a short note on polymorphism. 4
(b) Define the following : 3
(i) Heat of solution
(ii) Heat of formation and
(iii) Heat of combustion

OR

- (b) Given that energies for H-H, O = O and O-H bonds are 104, 118 and 119 kcal mol⁻¹ respectively Calculate the heat of reaction.
$$\text{H}_2(\text{g}) + 1/2 \text{O}_2(\text{g}) \rightarrow \text{H}_2\text{O}(\text{g})$$
- (c) What is osmotic pressure? Explain any one method for measurement of osmotic pressure. 4
6. (a) Calculate the pressure exerted by 1 mole of methane in a 250ml container at 27°C using Vander Waal's equation. 3
 $a = 2.253 \text{ L}^2 \text{ atm/mol}^2$
 $b = 0.0428 \text{ L/mol}, \quad R = 0.0821 \text{ L atm deg}^{-1} \text{ mol}^{-1}$
- (b) Write a short note on steam distillation. 3
(c) What is chemical potential? State the applications of free energy. 3
(d) State the postulates of Arrhenius theory of electrolyte dissociation. 2

B. Pharam Sem I CBSCS K.T.

A.P.P I

Dec 2016

QP Code : 524801

(3 Hours)

[Total Marks : 70

- N.B. :** (1) All the questions are **compulsory**.
(2) Figures to the right indicate full marks.
(3) Draw neat labelled diagram wherever necessary.

1. Answer the following :- 12
- (a) (i) Mention location and functions of epithelial tissue.
(ii) Explain the passive transport mechanism.
(iii) Explain the flow of lymph
(iv) Explain the process of leucopoiesis
(v) What is megaloblastic anaemia
(vi) What is chemotaxis
- (b) (i) Cardiac muscle is found in _____ layer of the heart wall. 3
(ii) Deficiency of _____ vitamin causes problems in blood coagulation.
(iii) _____ inflammatory mediator increases vascular permeability.
2. (a) Answer **any two** of the following :- 8
(i) Give composition of Blood in detail and Explain functions of Blood.
(ii) Explain in brief various types of hypersensitivity reactions.
(iii) Write a note on various types of immunity with suitable examples
- (b) Answer **any one** of the following :- 3
(i) Write note on myasthenia gravies
(ii) Explain the process of Blood coagulation
3. (a) Answer **any two** of the following :- 8
(i) Write a note on energy metabolism in the muscle.
(ii) Describe organisation of skeletal muscle fiber with suitable diagram.
(iii) Describe the events of sliding filament mechanism involved in skeletal muscle contraction.
- (b) Answer **any one** of the following :- 3
(i) Write a note on cardiac muscle
(ii) Explain the process of migration of WBC.

[TURN OVER]

2

4. (a) Answer **any two** of the following :- 8
(i) Write a note on AIDS.
(ii) Explain organisation of lymph vessels.
(iii) Draw a neat labelled diagram of lymph node and enlist functions of lymphatic system.
- (b) Answer **any one** of the following :- 3
(i) Draw of neat labelled diagram of neuron and enlist the functions of nervous tissue.
(ii) Give location and function of different types of epithelial cells.
5. (a) Answer **any two** of the following :- 8
(i) Compare and contrast between active and passive transport mechanism.
(ii) Write a note of various components of cell membrane
(iii) Write a note on muscle tone.
- (b) Answer **any one** of the following :- 3
(i) Write sequence of events in acute inflammation
(ii) Define
(a) Phagocytosis (b) Exudate (c) Chemotaxis
6. (a) Answer **any two** of the following :- 8
(i) Explain structure and function of platelets
(ii) Give significance of Rh factor and write a note on erythroblastosis fetalis.
(iii) Write a note on autoimmune diseases.
- (b) Answer **any one** of the following :- 3
(i) Write steps of healing
(ii) Explain, how chronic inflammation is different than acute inflammation.
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24/12/18

KT 2016
Dec

**SCHOOL OF PHARMACY
SEMESTER I EXAM 2016**

**First Year B.Pharm
Total Marks: 80
Date: 21/12/2016**

**Sub: Communication Skills & Ethics
Duration: 3 Hours**

Q.1] Do as Directed:

[10M]

1. They are Knocking down the old school.(Change the voice)
2. Harry planted a tree.(Identify the tense)
3. The flock of birds (was, were) flying south for the winter.(Rewrite using correct verb)
4. The party start before the show over.(correct the sentence)
5. i live In john street in Norwich England.(punctuate)
6. It has become the rallying point for unorganized labour movement.(Add question tag)
7. In 1956, the hamals went on their first ever strike demanding decent wages.
(Change into Infinitive)
8. The horse is excellent in swimming.
(Frame a Wh- type question to get the underlined part as an answer)
9. Give Synonym: Brevity
10. Give Antonym: Compulsory

Q.2] Fill in the blanks:

[5M]

1. Almost all politicians were involved _____ the scandal.
2. I am looking forward _____ having a meeting with you next week.
3. It doesn't matter whether they get the job _____ not.
4. We played very well _____ we still lost the game.
5. The squirrel is _____ the tree.

Q.3] Give the Phonetic Transcription:

[10M]

- | | |
|------------|-----------|
| 1. Bridge | 6. Theory |
| 2. Launch | 7. Pet |
| 3. Fresh | 8. Form |
| 4. Evening | 10. Art |
| 5. Yes | 9. Wood |

Q.4] Define the following: { Any Five }

[10M]

1. Communication
2. Gesture
3. Technical Communication
4. Resume
5. Leadership
6. Stress Management

Q.5] Write Short Notes on: { Any Three }

[15M]

1. Barriers of Communication
2. Five C's of Technical Communication
3. Types of Letters
4. Report Writing
5. Flow of Communication in Organization
6. Impact of Media & Technology
7. Family Responsibilities

Q.6] Write an ESSAY on any one of the following topics:

[10M]

1. "Pharmacy Day", celebration in the campus
2. "Field Project" that you did for Communication Skills Subject
3. "Health is Wealth" Discuss
4. Discuss how you will Communicate with Cancer Patient & Mentally Challenge

**Q.7] Draft a Report for a General Meeting of all the co-ordinators for keeping the events
For the upcoming fest in the college.**

[10M]

Q.8] Attempt any One:

[10M]

(a) You want to go abroad for your Higher studies in Pharmacy. Write an Inquiry Letter to Citibank inquiring about an educational loan.

OR

(b) You are dissatisfied with the garments consignment you have received from a supplier. Write down a Complaint Letter for the same and mention the details regarding the problem.